

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. - 22. (Cancelled)

23. (Original) An image signal processing device that processes an image signal constituting a subject image captured at an image-capturing element, comprising:

an average calculating unit that calculates pixel output averages for individual colors in each of a plurality of partition areas into which a light-receiving surface of the image-capturing element is divided based upon the image signal;

an average ratio calculating unit that calculates a ratio of the pixel output average corresponding to another color to the pixel output average of a reference color for each partition area;

a hue detecting unit that detects a hue of each partition area based upon the ratio of the pixel output averages;

an area extraction unit that extracts any partition area with a hue manifesting a frequency equal to or lower than a predetermined frequency value from the plurality of partition areas based upon a hue frequency distribution among the plurality of partition areas; and

a white balance adjustment unit that performs white balance adjustment based upon pixel outputs corresponding to individual colors from the extracted area.

24. (Currently Amended) An image signal processing device according to claim 23, wherein:

the white balance adjustment unit further ~~includes~~; includes:

a total sum calculating unit that calculates total sums of pixel output averages corresponding to the individual colors in the extracted area;

a gain calculating unit that calculates a white balance gain for a color other than the reference color based upon the total sums corresponding to the individual colors; and a pixel output adjustment unit that performs white balance adjustment by multiplying pixel outputs corresponding to the color other than the reference color by the white balance gain.

25. (Original) An image signal processing device according to claim 23, wherein: the pixel outputs include a red-color component, a green-color component and a blue color component and the reference color is green.

26. (Original) An image signal processing device according to claim 24, wherein: the pixel outputs include a red-color component, a green-color component and a blue color component and the reference color is green.

27. (Original) An image signal processing device according to claim 23, wherein: the pixel outputs include a green-color component, a yellow-color component, a cyan-color component and a magenta-color component and the reference color is green.

28. (Original) An image signal processing device according to claim 24, wherein: the pixel outputs include a green-color component, a yellow-color component, a cyan-color component and a magenta-color component and the reference color is green.

29. (Original) A digital camera having:
an image signal processing device according to claim 23; and
a recording image-capturing element that outputs an image signal used for recording the captured subject image into a recording medium, wherein:
an image signal to be used for white balance adjustment is the image signal output by the recording image-capturing element.

30. (Original) A digital camera having:
an image signal processing device according to claim 23;

a recording image-capturing element that outputs an image signal for recording the captured subject image into a recording medium; and

a photometering image-capturing element that outputs a photometering signal indicating a subject brightness level in each of photometering areas into which a photographic field is divided, wherein:

an image signal to be used for white balance adjustment is the image signal output by the photometering image-capturing element.

31. (Currently Amended) A computer-readable computer program product having a program to be used to process an image signal constituting a subject image captured at an image-capturing element, with the program comprising instructions to perform:

average value calculation processing in which pixel output averages are calculated for individual colors in each of a plurality of partition areas into which a light-receiving surface of the image-capturing element is divided based upon the image signal;

average ratio calculation processing in which a ratio of the pixel output average corresponding to another color to the pixel output average corresponding to a reference color is calculated for each partition area;

hue detection processing in which a hue of each partition area is detected based upon the ratio of the pixel output averages;

area extraction processing in which any partition area with a hue manifesting a frequency equal to or lower than a predetermined frequency value is extracted from the plurality of partition areas based upon a hue frequency distribution among the plurality of partition areas; and

white balance adjustment processing in which a white balance adjustment is performed based upon pixel outputs corresponding to individual colors from the extracted area.

32. (Currently Amended) A computer-readable computer program product according to claim 31 with the program further comprising instructions to perform:

total sum calculation processing in which total sums of the pixel output averages corresponding to the individual colors in the extracted area are calculated;

gain calculation processing in which a white balance gain for a color other than the reference color is calculated based upon the total sums corresponding to the individual colors; and

pixel output adjustment processing in which a white balance adjustment is performed by multiplying pixel outputs corresponding to the color other than the reference color by the white balance gain.

33. (Original) A computer program product according to claim 31, constituted as a recording medium having recorded therein the program.

34. (Original) A computer program product according to claim 31, constituted as a carrier wave having the program embodied as a data signal thereupon.

35. (Currently Amended) An image signal processing device A computer program product according to claim 31, wherein:

the pixel outputs include a red-color component, a green-color component and a blue color component and the reference color is green.

36. (Original) A computer program product according to claim 32, wherein:

the pixel outputs include a red-color component, a green-color component and a blue color component and the reference color is green.

37. (Original) A computer program product according to claim 31, wherein:

the pixel outputs include a green-color component, a yellow-color component, a cyan-color component and a magenta-color component and the reference color is green.

38. (Original) A computer program product according to claim 32, wherein:
the pixel outputs include a green-color component, a yellow-color component,
a cyan-color component and a magenta-color component and the reference color is green.

39. (Original) A computer program product according to claim 31, wherein:
an image signal to be utilized in white balance adjustment is an image signal
used for recording the captured subject image into a recording medium.

40. (Original) A computer program product according to claim 31, wherein:
an image signal to be utilized in white balance adjustment is a photometering
signal indicating subject brightness levels each corresponding to one of a plurality of
photometering areas into which a photographic field is divided.

41. (Currently Amended) An image signal processing device that processes an
image signal constituting a subject image captured at an image-capturing element,
comprising:
a hue calculating unit that calculates a hue of each of a plurality of partition
areas based upon pixel outputs from the partition areas into which a light-receiving surface of
the image-capturing element is divided;
an area extracting unit that extracts any area having a hue manifesting a
frequency equal to or lower than a predetermined frequency value from the plurality of
partition areas based upon a hue frequency distribution among the plurality of partition areas;
and
a white balance adjustment unit that performs a white balance adjustment
based upon pixel outputs corresponding to the individual colors from the extracted area.

42. (Original) A digital camera having:
an image signal processing device according to claim 41; and

a recording image-capturing element that outputs an image signal for recording the captured subject image into a recording medium, wherein:

an image signal to be used for white balance adjustment is the image signal output by the recording image-capturing element.

43. (Original) A digital camera having:

an image signal processing device according to claim 41;
a recording image-capturing element that outputs an image signal for recording the captured subject image into a recording medium; and

a photometering image-capturing element that outputs a photometering signal indicating a subject brightness level in each of photometering areas into which a photographic field is divided, wherein:

an image signal to be used for white balance adjustment is the image signal output by the photometering image-capturing element.

44. (Currently Amended) A computer-readable computer program product having a program to be used to process an image signal constituting a subject image captured at an image-capturing element, with the program comprising instructions to perform:

hue calculation processing in which a hue of each of a plurality of partition areas is calculated based upon pixel outputs from the partition areas into which a light-receiving surface of the image-capturing element is divided;

area extraction processing in which any area manifesting a frequency equal to or lower than a predetermined frequency value is extracted from the plurality of partition areas based upon a hue frequency distribution among the plurality of partition areas; and

white balance adjustment processing in which white balance adjustment is performed based upon pixel outputs corresponding to individual colors from the extracted area.

45. (New) An image signal processing device that processes an image signal constituting a subject image captured at an image-capturing element, comprising:

- an average calculating unit that calculates pixel output averages for individual colors in each of a plurality of partition areas into which a light-receiving surface of the image-capturing element is divided based upon the image signal;
- an average ratio calculating unit that calculates a ratio of the pixel output average corresponding to another color to the pixel output average of a reference color for each partition area;
- a hue detecting unit that detects a hue of each partition area based upon the ratio of the pixel output averages;
- an area extraction unit that extracts any partition area with a hue manifesting a frequency equal to or lower than a predetermined frequency value from the plurality of partition areas based upon a hue frequency distribution among the plurality of partition areas; and
- a white balance gain calculating unit that calculates white balance gains based upon pixel outputs corresponding to individual colors from the extracted area.

46. (New) An image signal processing device according to claim 45, wherein:

- the pixel outputs include a red-color component, a green-color component and a blue color component and the reference color is green.

47. (New) A digital camera having:

- an image signal processing device according to claim 45;
- a recording image-capturing element that outputs an image signal for recording the captured subject image into a recording medium; and

a photometering image-capturing element that outputs a photometering signal indicating a subject brightness level in each of photometering areas into which a photographic field is divided, wherein:

an image signal to be used for calculation of a white balance gain is the image signal output by the photometering image-capturing element.

48. (New) A computer-readable computer program product having a program to be used to process an image signal constituting a subject image captured at an image-capturing element, with the program comprising instructions to perform:

average value calculation processing in which pixel output averages are calculated for individual colors in each of a plurality of partition areas into which a light-receiving surface of the image-capturing element is divided based upon the image signal;

average ratio calculation processing in which a ratio of the pixel output average corresponding to another color to the pixel output average corresponding to a reference color is calculated for each partition area;

hue detection processing in which a hue of each partition area is detected based upon the ratio of the pixel output averages;

area extraction processing in which any partition area with a hue manifesting a frequency equal to or lower than a predetermined frequency value is extracted from the plurality of partition areas based upon a hue frequency distribution among the plurality of partition areas; and

white balance gain calculation processing in which white balance gains are calculated based upon pixel outputs corresponding to individual colors from the extracted area.

49. (New) An image signal processing device that processes an image signal constituting a subject image captured at an image-capturing element, comprising:

a hue calculating unit that calculates a hue of each of a plurality of partition areas based upon pixel outputs from the partition areas into which a light-receiving surface of the image-capturing element is divided;

an area extracting unit that extracts any area having a hue manifesting a frequency equal to or lower than a predetermined frequency value from the plurality of partition areas based upon a hue frequency distribution among the plurality of partition areas; and

a white balance gain calculating unit that calculates white balance gains based upon pixel outputs corresponding to the individual colors from the extracted area.

50. (New) A digital camera having:

an image signal processing device according to claim 49;

a recording image-capturing element that outputs an image signal for recording the captured subject image into a recording medium; and

a photometering image-capturing element that outputs a photometering signal indicating a subject brightness level in each of photometering areas into which a photographic field is divided, wherein:

an image signal to be used for calculation of a white balance gain is the image signal output by the photometering image-capturing element.

51. (New) A computer-readable computer program product having a program to be used to process an image signal constituting a subject image captured at an image-capturing element, with the program comprising instructions to perform:

hue calculation processing in which a hue of each of a plurality of partition areas is calculated based upon pixel outputs from the partition areas into which a light-receiving surface of the image-capturing element is divided;

area extraction processing in which any area manifesting a frequency equal to or lower than a predetermined frequency value is extracted from the plurality of partition areas based upon a hue frequency distribution among the plurality of partition areas; and

white balance gain calculation processing in which white balance gains are calculated based upon pixel outputs corresponding to individual colors from the extracted area.